

ORCA Proposers' Day Questions and Answers

11 July 2007

NOTE: Any government solicitation takes precedence over any information contained in this document.

1Q. *The FSO/RF nodes are specified to cover a hemisphere. If two nodes are needed for coverage of a sphere, on a single airborne platform, do the total SWaP metrics apply to the both (e.g. 300 lbs per node)?*

1A. The estimate was based on a single system.

2Q. *Does the FSO system have to operate in direct line of sight with the sun? If no, how many degrees away?*

2A. Yes and No. The optical has to track in line with sun, but it is not required to communicate.

3Q. *Is there interest in data compression?*

3A. No. Data compression is a known commodity to all proposers and is not an objective in ORCA. We primarily are interested in channel and link diversity as the means of obtaining the high data rates.

4Q. *Does the node SWaP specification include data buffering (disk) storage?*

4A. Yes.

5Q. *What is the maximum angular rate we expected from the moving target?*

5A. The proposer should determine the geometries and rates necessary to obtain desired performance. The ground vehicle can be moving at up to 65 mph in any direction, through clear, complex and urban terrain. The objective aircraft is a C-130 operating between 10k and 25k feet flying at 200-250 knots in any direction. The air-to-ground ranges are up to 50 km.

6Q. *What is the intensity of the background light?*

6A. The system is to be capable of operation day and night anywhere in the world. The architecture, including how to address high background optical signals, is to be determined by the proposer. There are many books that outline such numbers, e.g. Pratt, Introduction to Laser Communications, Wiley, and the proposer can find example numbers there.

7Q. *The Network and Network Security briefing slides 6 and 7 include depictions of FSO and RF architecture showing links to the same router on a node. Does the figure imply multiple routing domains and what might be the differences?*

7A. The architecture depicted in the Industry Day slides are simply notional. System design is up to the proposer, but it must be able to connect to the GiG-E and tactical radio networks, which have significantly different available spectrum.

8Q. *Can defense laboratories (NRL, ARL, AFRL) and FFRDCs meet the requirement for non-traditional defense contractors for Other Transaction Authority (OTA) procurement?*

8A. No. Defense and National Laboratories, and FFRDCs are not considered non-traditional contractors.

9Q. *Will propagation model discussions in the Government Reference Link Models briefing be provided as part of the BAA?*

9A. These models were referenced in the briefing by published documents and are available through open sources.

10Q. *Do you anticipate any ITAR restrictions on foreign nationals who might work on the project?*

10A. Normal ITAR restrictions will be complied with on this project.

11Q. *The ORCA program is quite expansive and ambitious. Will the government provide some guidance as to how much funding will be available for this effort?*

11A. There will be no government funding estimate provided in the solicitation.

12Q. *How many awards are anticipated for this effort?*

12A. Multiple awards at the initial phase are anticipated, but the government reserves the right to make one, several, or no awards.

13Q. *What is the expected duration for the three phases as outlined in the briefing?*

13A. It is expected the program and each phase duration will be provided by the proposer. No specific program or phase timelines have been determined.

14Q. *Do you expect to have technical maturation efforts associated with the effort?*

14A. No. Technology maturation efforts are not expected in this effort.

15Q. *Will there be a list of companies that plan to be prime proposers on this effort?*

15A. The government does not plan to post information on prime proposers. Capture Managers for potential Primes were introduced three times during the ORCA Industry Day, which appeared to major Aerospace Contractors. The attendee lists will provide information on POC for such organizations.

16Q. *Can you provide information on closed loop communication and aircraft mobility dynamics?*

16A. All government provided information can be found in ORCA BAA and supporting website. More information on closed loop communications can be found in the open literature.